

**A STATUS SURVEY REPORT ON DEVARAYANA DURGA STATE
FOREST
TUMKUR DISTRICT, KARNATAKA**

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SYNOPSIS

Devarayana Durga state forest is a 42.27 sq. Km patch of forest near Tumkur, Karnataka. The habitat is mainly dry deciduous forest in the plains and along the slopes of the hills, while southern tropical thorn scrub forest is predominant on the top of the hills and around the temple area. Flora of the region was surveyed and documented in 1964 when 209 species belonging to 59 families of vascular plants were enumerated by R.S.Rao and A.R.Shastry of Botanical Survey of India. However there has been no attempt to document the once rich fauna of the region except for a brief survey of birds by Dr. Salim Ali.

Dr.Salim Ali during his birds survey of the erstwhile Mysore State between 31 December 1939 – 4 January 1940 surveyed this forest and recorded fifty six species of birds including the endangered Shahin Falcon. The present survey records 132 species of birds belonging to 38 families.

Devarayanadurga State Forest is one of the very few pockets of forest near Tumkur. Engulfed by villages and fields, the State Forest is an isolated tract and the last refuge for many endemic species of flora and fauna. The forest has withstood the onslaught of over-exploitation by the local populace.

The present survey was undertaken to list and document the fauna, which inhabit this region. Also the survey is aimed at identifying the threats and disturbances to the state forest and suggesting necessary measures for preserving and managing the biodiversity of the area.

CHAPTER 1

Devarayanadurga State Forest – An Introduction

Introduction :

A considerable chain of hills runs north-south in the eastern part of Tumkur district. This range marks the boundary between the Krishna and Cauvery river basins. Starting with Kamanadurga (1078 Metres above mean Sea level) and Nidugal (1062 M) in Pavagada taluq, it continues through Midigeshidurga (1141 M) and other hillocks which include some prominent peaks like Madhugiridurga (1200 M), Channanarayanadurga (1141 M), Koratagiri (886 M), Devarayanadurga (1266 M), Nijagal (1088 M), Hutaridurga (1131 M) and Huliurdurga (940 M). It is a part of the range running west in the Bangalore district, represented by Shivagange and Savanadurga. Devarayanadurga is the tallest in this range. This hillock, which is about 14 km east of Tumkur town is well known, with a historical importance. Devarayanadurga is a fortified hillock. It was known previously as “Anebiddasari, Jadakadurga” etc. and the present name Devarayanadurga was christened in the honour of Chikkadevaraja Wodeyer, who captured this territory in the late 17th century.

Topography :

The terrain is undulating with the crest of the ridge line being narrow and sloping steeply towards east and west, towards Urudigere and Tumkur respectively. The hill of Devarayanadurga has three distinct elevations or terraces and has sheer rock faces dropping to over 500 feet or more at places. After the steep drop from the hillocks, the land is gently sloping and more or less plain.

Devarayanadurga chain, as said earlier demarcates the boundary between Krishna and Cauvery basins. Devarayanadurga is the source of many small streams and tributaries. The principal one is Jayamangali, which rises in a gorge called “Jaladagundi” and flows in northerly direction. Another small brook “Garudachala”, has its source in the south eastern portion of Devaryanadurga and flows north and joins Jayamangali near Holavanhalli. Incidentally, Jayamangali is a tributary of North Pinakini. Another major stream is Shimsha, a tributary of Cauvery. Shimsha has its source in the southern part of Devarayanadurga and flows, south-west and joins Cauvery. Besides these, there are many small nullah’s which hold water during rainy season.

Rocks :

The rocks are mainly of metamorphic type characterised by the presence of gneiss and granite, disrupted by trapseams, dikes and large outcrops. The soils are mainly sandy in the eastern parts and red soil is found in the southern parts.

Climate :

The climate is even and pleasant for most part of the year. The elevation and greenery in the surroundings of Devarayanadurga help in moderating the temperatures. The temperatures are tolerably hot and equable with the, mean maximum and minimum temperatures being 30 – 32⁰C and 18⁰C respectively. The hottest months are from mid March to the end of May, when the maximum temperatures shoot up to 36 to 37⁰C, but the nights are

comparatively cooler. The rainy season from June to September, brings about 80-85 cm of rain, average number of rainy days being 40 to 45.

Nadamachilume :

Namadachilume is a perennial spring situated 7 km to the west of Devarayanadurga, almost at the base of the hillock. It is a sacred place with many legends attached. The actual spring originates in a hemispherical depression about one foot in diameter and one foot deep. The forest around Namadachilume is much thicker and is comprised of moist deciduous type near the banks of nullahs and streams and dry deciduous at other places. The forest is degraded near the periphery having either secondary scrub or scrub jungles.

Devarayanadurga State Forest is the only patch of good forest in the southern part of Tumkur district. These forests have been protected from a long time, not only because of historical, strategic and mythological reasons, but also because the streams originating from Devarayanadurga chain are the sources of several large irrigation tanks. Even in the early 19th century, 42.27 sq. Kilometre of forests around Devarayanadurga had been accorded the protected status (vide Govt. Order no: 7591-Fr-120-06-31 dated 19 February 1907) including Doddavadi Forest in the Tumkur range.

CHAPTER I I

Objectives and Methodology

Objectives :

The Devarayanadurga State Forest was surveyed with the following objectives:

1. To survey all areas with different habitats and to identify the common flora and fauna inhabiting this forest patch.
2. To document the endemic and endangered species found in this state forest.
3. To record the breeding, resident and migratory birds.
4. To determine the present status of the flora and fauna by monitoring the threats and disturbances and to suggest suitable recommendations for the management of biodiversity of Devarayanadurga State Forest.

Methodology :

Devarayanadurga State Forest was visited seven times in winter between 20 October 1990 and 17 April 1994 by the authors. Field visits were made early in the mornings, evenings and even during the nights while camping overnight in the locality. The entire forest patch was surveyed on foot and observations were recorded in the field. A 7 x 35 prismatic binocular was used in the field. Besides, the members of Wildlife Aware Nature Club have been visiting the place regularly and the report includes their observations.

Some of the reptiles and amphibians were caught for identification and released subsequently after confirming their identity and taking measurements. While most of the butterflies listed were identified by sight, a few of them had to be captured for identification. But all of them were released unharmed.

Few reliable locals were interviewed for occurrence of other large fauna which were not met with during the survey. The identity of the species described by them were reconfirmed with the help of illustrations.

CHAPTER I I I

Habitat and Vegetation

The habitat at Devarayanadurga State Forest is of mainly of two types – firstly Southern Tropical Thorn Scrub Forest (see plate I) characterized by the presence of thorny bushes and dwarf trees like the Dodonea Viscosa, Pterelobium hexapetalum, Butea monosperma, Lantana, Canthium parviflorum, Securiniga leucopyris and from the rocky crevices Ficus mollis, Impatiens were growing profusely. This kind of vegetation is common on the hill tops and around the temple area.

Second type of habitat is that of dry deciduous vegetation along the hill slopes, valley and surrounding the Namadachilume area. The dominant species of trees here are Dalbergia, Anogeissus Latifolla, Terminalia Arjuna, T. Bellerica, T. Alata, T. paniculate, Gmelina arorea, Erythrina, Salmal malabaricum, Acacia leucophloea, A. suma etc. with thick undergrowth comprising off Lantana, Erythroxyton, Gymnosporia, Canthium, pterelobium, Chromolena and Ziziphus.

Due to extensive planting of the exotics like the Eucalyptus, Acacia auriculiformis, Cassia siamea, C. spectabills, Tabebula etc (see plate), the habitat is quite mixed. Also extensive planting of Tamarindus indica, Gliricidia sepium, Jacaranda mimosaefolia by the Karnataka Forest Department has altered the habitat much.

Extensive floristic survey of the region has been conducted by R.S.Rao and A.R.Sastry of Botanical Survey of India, Western circle, Poona. Rao and Sastry (1964) enumerates about 209 species belonging to 59 families of vascular plants, of which families like Fabaceae, Poaceae, Asteraceae and Commelinaceae are well represented.

About 110 species of flora belonging to 46 families found in the State Forest have been listed in this report. (See appendix 1). Some of the species have been introduced subsequent to the survey of Rao and Sastry (1964).

CHAPTER I V

Fauna of Devarayanadurga State Forest

Mammals :

The Bonnet Macaque Macaca Radiata, Indian Blacknaped Hare Lepus nigricollis, Indian Gerbille tateria indica and Three Striped Palm Squirrel Funambulus palmarum were the only mammals sighted by the authors during the survey period. They are the most common mammals found in this region. Leopard Panthera pardus and Spotten Deer Axis axis have been recorded by members of Wildlife Aware Nature Club. They also have a doubtful sighting of Ruddy Mongoose Herpestes smithi.

The occurrence of Common Indian Mongoose Herpestes edwardsii, the Jungle Cat Felis chaus and Wild Boar Sus scrofa have been confirmed by their spoors and droppings, the members of Wildlife Aware Nature Club, Tumkur have also sighted Indian Fox Vulpes bengalensis, the Jackal Canis aureus, Wolf Canis lupus and small Indian Civet viverricula indica though the authors could not come across them during the survey.

The Locals claim that the Spotted Deer Axis axis and the Sambar Cervus unicolor were found earlier and now they are probably exterminated from the wild. A large Sambar stag was reportedly killed on the nearby highway two years ago. Locals also claim the presence of Sloth Bear Melursus ursinus, which frequents their fields also, some times in search of food. However no spoors were met with during the survey to confirm its presence. The quill of porcupine Hystrix Indica has been obtained by the Members of Wildlife Aware Nature Club confirming its occurrence.

The Forest Department staff reported the lifting of spotted Deer from the deer enclosure by a Leopard Panthera pardus. Also the villagers mentioned the disappearance of their dogs which may have fallen prey to the Leopard. Due to insufficient prey species in the wild the Leopard must have been preying on the deer in the enclosure and the dogs.

Although many species of insectivorous bats have been noticed actively feeding during dusk, their identity could not be confirmed.

In all, seventeen species of mammals falling into thirteen families have been reported to inhabit this forest (see appendix II).

Avifauna :

Devarayanadurga State Forest has a rich avifauna. In all 132 species belonging to 38 families have been recorded so far.

Dr. Salim Ali during his trip to this area between 31 December 1939 to 4 January 1940 as part of his survey of the erstwhile Mysore state recorded fifty six species (Ali, 1942). Among these, the authors have not come across nine species of birds which are Pintail Snipe Gallinago stenura, Chestnutheaded Bee-eater Merops leschenaulti, Bluebearded Bee-eater Nyctyornis athertoni, Crested Tree Swift Hemiprocne longipennis, Thickbilled Warbler Acrocephalus aedon, Common Rosefinch Caprodacus erythrinus, and Hill Myna Gracula religiosa. Of these, Hill Myna, is possibly locally extinct since the habitat is no longer suitable for the occurrence of the species due to extensive planting of exotic tree species

especially Eucalyptus. The other eight species could possibly occur though we have not come across them during our visits.

Two endemic species occur in the State Forest namely the Yellow throated Bulbul Pycnonotus xantholaemus and the Whitebrowed Bulbul P. luboolus. Singhting of the Yellowthroated Bulbul on 21 October 1990 at Devarayanadurga by J.N.Prasad and Dr. S.Subramanya of University of Agricultural Sciences, Bangalore happens to be the first reported record of the species from Devarayanadurga State Forest. This endemic species, restricted to the rocky hillocks of peninsular India was not reported by Salim Ali, though he gives a very interesting account on the mating behaviour of Alpine swift observed from the hill-top, (1943: JBNHS : 44(1); 9-26).

Shahin Falcon Falco peregrinus peregrinator is probably a breeding resident in Devarayanadurga. This highly endangered species first reported by Salim Ali in 1939 from this very hill, is listed in the Schedule I of the Wildlife (protection) Act. This species has managed to survive, thanks to the protection due to historical and religious importance. Habitat loss due to granite quarrying and deforestation of hills and the plains and pesticide usage in the agricultural fields have drastically reduced their population in the recent years. The species has been observed subsequently by Mr. S.T.Baskaran (1992).

During our survey, we observed a pair of painted Spurfowl courting in an open area. Baskaran (1992) also reports the occurrence of the species from this hill.

During his survey of Birds of Mysore, Dr. Salim Ali shot a male Whitebrowed Blue Flycatcher Muscicapa superciliaris which happens to be the first record of the species from Karnataka (Prasad et.al, 1992). The Common Hawk-Cuckoo Cuculus varius and Shama Copysychus malabaricus have not been met either by the authors or by Salim Ali but were observed in the area by T.V.N.Murthy, G.S.Mahesh and K.R.Manjunath (pers. Comm..) of Wildlife Aware Nature Club, Tumkur.

Reptiles:

Twenty-two species belonging to 10 families have been reported from the Devarayanadurga State Forest (see appendix IV). Three species of Geckos were identified during the survey, out of which the Southern House Gecko Hemidactylus Frenatus is most common in the rest Houses while the Termite Hill Gecko H. triedrus was caught from a Termite Hill and also sighted in the ruins of a temple. The rock Gecko H. maculatus was observed once on 20 October 1991 on the fort leading to the temple area.

Among the two species of Agamids which occur in this forest the most common species is the Garden Lizard Calotes versicolor in the scrub jungles and the peninsular rock agama psammophilus dorsdalis on rock hills and the fort.

Two species of Skinks have been identified (see appendix IV) so far and the most common species is the Snake Skink Riopa punctata along the plains and on the hill slopes. The young ones with red tails are found throughout

the winter while the adults were rarely seen as they burrow into the sand (Daniel, 1986). The other species Brahminy or the Common skink Mabuya carinata is very common on the leaf-littered forest floor.

Members of the Wildlife Aware Nature Club have seen the Indian Chamaeleon Chamaeleon zeylanicus. The popular myths about the toxins present in its body may be one of the reasons for its indiscriminate killing by the locals.

The Monitor Lizard Varanus bengalensis was sighted on one occasion basking on a termite Hill.

While most of the Snake species listed were identified by sight, dead specimens of four species have been collected by Wildlife Aware Nature Club members.

Amphibians :

During the survey, six species of anurans were recorded. Of these four species belong to one single family – Microhylidae which is held to be significant. Microhyla rubra was seen on Banglibetta. While quite a few specimens of M.ornata were seen near Kumbarahallikere near Namadachilume. Two individuals of Uperodon systoms were seen actively moving about during the night on a moist, sandy stream bed, and Keloula pulchra were caught in the early morning while trying to enter a small hole at the base of a culvert close to the dry stream bed.

The common toad Bufo melanostictus is the most common anuran found in the state forest. We think the genus Rana must be fairly well represented here as we could hear them calling from the ponds and lakes. However, we could not catch them for identification.

Butterflies :

A vast area of the State Forest was surveyed for butterflies alongside other fauna. In all 50 species were recorded during the course of the survey.

A total of 8 families represented by 50 species have been recorded. There is good scope for more species of Family Hesperidae occurring here though only one species was noted during the survey. Also more species of Family Satyridae can be recorded if the survey can be done over a longer period while the only species of family Acraeidae in south India – the Tawny Coaster Acraea terpsicore was seen. The Common Emigrant Catopsila crocale (?) was observed laying eggs on Cassia tora.

The habitat is quite conducive for the occurrence of many more species than those recorded during the survey. Members of Wildlife Aware Nature Club have reported sighting of common Birdwing from the area.

CHAPTER V

Threats and Disturbances

During the survey, several threats and disturbances to State Forest were noticed. Major ones are listed below:

1. Deforestation for fuel wood and fodder collection is going on unabated. One can see huge head loads of fuel wood being carried off to be sold in Tumkur market.
2. Overgrazing and uncontrolled influx of cattle is also a major problem. This along with deforestation has led to soil erosion on a large scale, particularly on the slopes.
3. Forest fires are common in dry seasons. Fires are built unscrupulously by the locals villagers so that they can reach deep into the jungle to chop firewood and also to get fresh grass for their cattle in the coming season. There is also a popular myth that fires are a offering to the reigning diety of the hills.
4. Encroachment on the periphery of the State Forest has been noticed due to no clear demarcation between the State Forest and the revenue land.
5. Cultivation along the borders can be found within the forest and this is increasing at an alarming rate. In the absence of clear cut boundaries of the State Forest encroachment is bound to occur.
6. Planting of exotic species of trees like the Eucalyptus sp. are depriving the growth of native flora.

7. Large number of tourists visiting Devarayanadurga and Namadachilume and uncontrolled use of radios and tape-recorders by them are spoiling the peace and tranquillity of the area. Indiscriminate littering is an eye sore and the resulting pollution is a cause for concern.
8. Poaching of birds and animals using traps and shot guns have been reported. As a result of this, the population especially of hares and partridges been affected. This has also led to the extinction of larger prey species like the Spotted Deer and Sambar. Due to lack of prey, the Leopard may be the centre of man-animal conflict in future.
9. Quarrying on the hillocks is a potential threat to the ecology of the forest. It is directly affecting the habitat of the endangered species like the Shahin Falcon and the endemic species the Yellow-throated Bulbul.
10. Unchecked movement of vehicular traffic, especially the heavy trucks are disturbing the wildlife.
11. Sand lifting from the nullahs after the rainy season is becoming a major problem.
12. Every year tamarind trees are auctioned for harvesting tamarind. The bidders have free access to the forest, move about with guns, and probably poach small game.

CHAPTER VI

Recommendations

A few recommendations for the development of the Devarayanadurga State Forest were considered necessary which should be implemented at the earliest.

1. Setting up of a nature study centre with facilities for educating the rural people, visitors and students. Ideal location for such a centre is Namadachilume.
2. Putting up of labels on trees giving the common name, scientific name, family, origin and uses if any shall help in educating the tourists and enable them to appreciate their importance.
3. Setting up of display boards in prominent areas, highlighting occurrence of important fauna along with their local names. A board with paintings of common birds is ideal. Also facts about Indian Wildlife can be put up to educate public. Similar boards can also be put giving information about various species of Deer in the Deer Park.
4. Feeding of animals by public must not be allowed and warning notices and a strict vigilance is necessary to implement this.
5. A list of Do's and Don'ts for the visitors should be put up at strategic points.
6. Display boards with emphasis on the historical importance may be put up especially at the Devarayanadurga temple and Namadachilume.
7. Planting of native species of flora should be undertaken, especially those species which can withstand arid conditions are recommended for afforestation of deforested hills.

8. A clear demarcation of the state forest boundary and strict vigilance should be taken up. This will check the entry of people and prevent encroachment.
9. Waterholes should be maintained so that enough water is available in dry season for the wildlife.
10. Setting up of check posts and regulating the traffic should be undertaken. Traffic between 6.00 pm and 6.00 am should be regulated.
11. Nature orientation camps to be conducted especially for the people from neighbouring areas to highlight the importance of forests, flora and fauna, conservation, alternative resources etc.
12. Regulation of fuelwood and fodder collection should be taken up in right earnest and the villagers must be involved in the afforestation programme.
13. Quarrying must be immediately banned and the concerned departments like mines and geology and the revenue department officials are requested not to issue fresh leases or renew them. For quarrying in the forest land or in the vicinity and also permission to use forest roads to reach such sites lying outside the boundary of the state forest, should not be granted.
14. There is a tremendous scope for further study and research on various aspects of flora and fauna, forest ecology etc. and it should be wholeheartedly supported by the forest department.
15. Museum with educative models and children's library may be set up.
16. Cattle grazing should be regulated.

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Appendix I: Partial list of flora of Devarayanadurga State Forest.

Note : For a detailed list with notes on Flora of Devarayanadurga please refer to Rao and Shastry (1964) who have recorded 203 species belonging to 59 Families. Few additional species which were introduced after 1964 has been added here.

<p>Family : Anacardiaceae</p> <p>001. <u>Anacardium occidentale</u></p> <p>002. <u>Mangifera indica</u></p> <p>003. <u>Semecarpus anacardium</u></p> <p>Family : Apocynaceae</p> <p>003. <u>Amorphophallus Campanulatus</u></p> <p>Family : Araceae</p> <p>004. <u>amorphophallus campanulatus</u></p> <p>Family : Arecaceae</p> <p>005. <u>Phoenix sylvestris</u></p> <p>Family : Asteraceae</p> <p>006. <u>Chromolaena odorata</u></p> <p>007. <u>Lagascea mollis</u></p> <p>008. <u>parthenium hysterophorus</u></p> <p>009. <u>Tridax procumbens</u></p> <p>010. <u>Ageratum conyzoides</u></p> <p>Family : Asclepiadaceae</p> <p>011. <u>Hemidesmus indicus</u></p> <p>012. <u>Calatropis gigantea</u></p> <p>Family : Balsaminaceae</p> <p>013. <u>Impatiens triocarpa</u></p> <p>014. <u>Impatiens balsamina</u></p> <p>Family : Bignoniaceae</p> <p>015. <u>Jacaranda mimosaeifolia</u></p> <p>016. <u>Tabebuia agrentia</u></p> <p>017. <u>Tecoma stans</u></p> <p>Family : Bombaceae</p> <p>018. <u>Salamalia malabarica</u></p> <p>Family : Brassicaceae</p> <p>019. <u>Coronopus didymus</u></p>	<p>Family : Magnoliaceae</p> <p>065. <u>Michelia champaka</u></p> <p>Family : Malvaceae</p> <p>066. <u>Hibiscus lobatus</u></p> <p>067. <u>Malvastrum coromandelianum</u></p> <p>068. <u>Pavonia zeyalnica</u></p> <p>069. <u>Sida acuta</u></p> <p>070. <u>Sida cordifolia</u></p> <p>Family : Meliaceae</p> <p>071. <u>Azadirachta indica</u></p> <p>072. <u>Cipadessa baccifera</u></p> <p>073. <u>Sweetinia sp.</u></p> <p>Family : Menispermaceae</p> <p>074. <u>Cissampelos pareira</u></p> <p>075. <u>Cocculus hirsutus</u></p> <p>Family : Moraceae</p> <p>076. <u>Ficus beghalensis</u></p> <p>077. <u>Ficus mollis</u></p> <p>Family : Myrtaceae</p> <p>078. <u>Syzygium sp.</u></p> <p>079. <u>Psidium gujava</u></p> <p>080. <u>Callistemon lanceolatum</u></p> <p>Family : Oleaceae</p> <p>081. <u>Jasminum sp</u></p> <p>Family : Onagraceae</p> <p>082. <u>Eucalyptus sp.</u></p> <p>Family : Oxalidaceae</p> <p>083. <u>Oxalis</u></p> <p>Family : Papaveraceae</p> <p>084. <u>Argemone Mexicana</u></p>
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<p>Family : Celastraceae</p> <p>020. <u>Maytenus emarginata</u></p> <p>021. <u>Celastrus paniculata</u></p> <p>Family : Combretaceae</p> <p>022. <u>Terminallia arjuna</u></p> <p>023. <u>Terminallia bellerica</u></p> <p>024. <u>Terminalia paniculata</u></p> <p>025. <u>Terminalia alata</u></p> <p>Family : Convolvulaceae</p> <p>026. <u>Argyreia cuneata</u></p> <p>027. <u>Evolvus alsinoides</u></p> <p>028. <u>Ipomea hederifolia</u></p> <p>029. <u>Ipomea coccinea</u></p> <p>Family : Ebenaceae</p> <p>030. <u>Diospyros Montana</u></p> <p>Family : Erythroxylaceae</p> <p>031. <u>Erythroxylon monogynum</u></p> <p>Family : Euphorbiaceae</p> <p>032. <u>Jatropha sp.</u></p> <p>033. <u>Kirganelia reticulate</u></p> <p>034. <u>Securiniga leucopyris</u></p> <p>035. <u>Mallotus phiippensis</u></p> <p>Family : Fabaceae</p> <p>036. <u>Abrus precatorius</u></p> <p>037. <u>Acacia leucophloea</u></p> <p>038. <u>Acacia auriculiformis</u></p> <p>039. <u>Acacia concinna</u></p> <p>040. <u>Acacia suma</u></p> <p>041. <u>Aeschynomeme indica</u></p> <p>042. <u>Albizia amara</u></p> <p>043. <u>Albizia lebbek</u></p> <p>044. <u>Alysicarpus bupleurifolius</u></p>	<p>Family : Poaceae</p> <p>085. <u>Cymbopogon sp.</u></p> <p>086. <u>Dendrocalamus strictus</u></p> <p>Family : Pontederiaceae</p> <p>087. <u>Eichornia crassipes</u></p> <p>Family : Polygalaceae</p> <p>088. <u>Polygala elongate</u></p> <p>Family : Proteaceae</p> <p>089. <u>Grewelia robusta</u></p> <p>Family : Rhamnaceae</p> <p>090. <u>Ziziphus mauratiana</u></p> <p>091. <u>Ziziphus xylopyrus</u></p> <p>Family : Rubiaceae</p> <p>092. <u>Canthium parviflorum</u></p> <p>Family : Rutaceae</p> <p>093. <u>Toddalia asiatica</u></p> <p>094. <u>Ruta graveoleus</u></p> <p>Family : Sabiaceae</p> <p>095. <u>Milingtonia hortensis</u></p> <p>Family : Santalaceae</p> <p>096. <u>Santalum album</u></p> <p>Family : Sapindaceae</p> <p>097. <u>Cardiospermum halicacabum</u></p> <p>098. <u>Dodonea viscosa</u></p> <p>Family : Sapotaceae</p> <p>099. <u>Madhuca longifolia</u></p> <p>Family : Solanaceae</p>
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045. <u>Alysicarpus vaginalis</u>	100. <u>Solanum violaceum</u>
046. <u>Alysicarpus sp.</u>	Family : Sterculiaceae
047. <u>Bauhinia purpurea</u>	101. <u>Waltheria americana</u>
048. <u>Cassia spectabilis</u>	Family : Tiliaceae
049. <u>Cassia fistula</u>	102. <u>Grewia hirsuta</u>
050. <u>Cassia auriculata</u>	103. <u>Triumfetta rhombifolia</u>
051. <u>Crotolaria mysorensis</u>	Family : Verbenaceae
052. <u>Crotolaria prostrata</u>	104. <u>Clerodendrum serratum</u>
053. <u>Dalbergia sp.</u>	105. <u>Gmelina arborea</u>
054. <u>Delonix regia</u>	106. <u>Lantana camara</u>
055. <u>Derris indica</u>	107. <u>Stachytarpheta indica</u>
056. <u>Erythrina sp.</u>	108. <u>Tectona grandis</u>
057. <u>Gliricidia sepium</u>	Family : Vitaceae
058. <u>Mimosa pudica</u>	109. <u>Ampelocissus tomentosa</u>
059. <u>pterelobium hexapetulum</u>	110. <u>Cissus pallida</u>
060. <u>Tamarindus indica</u>	Family : Zycophyllaceae
Family : Lamiaceae	111. <u>Tribulus terrestris</u>
061. <u>Leucas aspera</u>	
Family : Liliaceae	
062. <u>Asparagus sp.</u>	
063. <u>Curculigo orchiodes</u>	
064. <u>Gloriosa superba</u>	

Appendix II: Checklist of Mammals

Class: Mammals

Family: Cecopithedae

01. *Macaca radiata* Bonnet macaque

Family: Lorisidae

02. *Loris tardigradus* Slender Loris

Family: Felidae

03. *Panthera pardus* Common Leopard

04. *Felis chaus* Jungle cat

Family: Viverridae

05. *Viverricula indica* Small Indian Civet

Family: Herpestidae

06. *Herpestes edwardsi* Common mongoose

Family: Canidae

07. *Vulpes bengalensis* Indian fox

08. *Canis aureus* Jackal

09. *Canis lupus* Wolf

Family: Ursidae

10. *Melursus ursinus* Sloth Bear

Family: Sciuridae

11. *Fumumldus palmarum* Three striped palm squirell

Family: Muridae

12. *Tatera indica* Indian Gerbille

Family: Hystricidae

13. *Hystrix indica* Indian Porcupine

Family: Cervidae

14. *Axis axis* Spotted Deer

15. *Cervus unicolor* Sambar

Family: Leporidae

16. *Lepus nigricollis* Indian Hare

Family: Suidae

17. *Sus scrofa* Wild Boar

Appendix III: Checklist of Birds

Including 53 species of birds noted by Dr.Salim Ali during his survey on birds of Mysore between 31 December 1939 to 4 January 1940 as part of his recorded fifty six species (Ali, 1942). (1942-43: JBNHS: Vol:42/43)

*birds sighted /collected by Dr.Salim Ali but not sighted by us

birds not sighted by Dr.Salim Ali or the authors but reported by the members of Wildlife Aware Nature Club, Tumkur.

M in brackets refers to migratory species.

NOTE: First numbers refers to the serial number in the checklist

Second number is the Handbook serial number of the species as

Followed by S.Dillon Ripley (1982): The synopsis of the Birds of India and Pakistan, Bombay Natural History Society, Bombay.

1 Family: Podicipedidae - Grebes

001	5	Tachybaptus ruficollis	Little Grebe
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2 Family: Ardeidae

002	42	Ardeola grayii	Pond-Heron
003	44	Bubulcus ibis	Cattle Egret
004	49	Egretta garzetta	Little Egret

3 Family: Accipitridae

005	124	Elanus caeruleus	Black-winged Kite
006	130	Pernis ptilorhyncus	Honey- buzzard
007	133	Milvus migrans govinda	Pariah Kite
008	135	Haliastur indus	Brahminy Kite
009	139	Accipiter badius	Shikra
010	161	Spizaetus cirhaetus	Crested Hawk Eagle #

011	164	Hieraaetus pennatus	Booted hawk Eagle
012	172	Ictinaetus malayensis	Black Eagle
013	178	Sarcogyps calvus	King Vulture
014	182	Gyps indicus	Long-billed Vulture
015	185	Gyps bengalensis	White-backed Vulture
016	186	Neophron percnopterus	Scavenger Vulture
017	195	Circaetus gallicus	Short-toed Eagle
018	197	Spilornis cheela	Crested Serpent-Eagle

4 Family: Falconidae - Falcons

019	211	Falco peregrinus peregrinator	Shaheen Falcon
020	222	Falco tinnunculus	Kestrel (M)

5 Family: Phasianidae

021	246	Francolinus pondicerianus	Grey partridge
022	301	Gallus sonneratii	Grey Junglefowl

6 Family: Rallidae

023	343	Amauornis phoenicurus	R	White-breasted Waterhen
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7 Family: Charadriidae

024	366	Vanellus indicus	Red-wattled Lapwing
025	397	Tringa ochropus	Green Sandpiper (M)
026	406	Gallinago stenura	Pintail Snipe

8 Family: Columbidae

027	516	Columba livia	Blue Rock Pigeon
028	537	Streptopelia chinensis	Spotted Dove
029	541	Streptopelia senegalensis	Little Brown Dove

9 Family: Psittacidae

030	550	<i>Psittacula krameri</i>	Rose-ringed Parakeet
031	558	<i>Psittacula cyanocephala</i>	Plum-headed Parakeet

10 Family: Cuculidae

032	573	<i>Cuculus varius</i>	Common Hawk-Cuckoo #
033	590	<i>Eudynamys scolopacea</i>	Asian Koel
034	595	<i>Phaenicophaeus viridirostris</i>	Small Greenbilled Malkoha
035	600	<i>Centropus sinensis</i>	Crow Pheasant

11 Family: Strigidae

036	617	<i>Otus scops</i>	Scops-Owl *
037	623	<i>Otus bakkamoena</i>	Collared Scops-Owl
038	627	<i>Bubo bubo</i>	Great Horned Owl
039	637	<i>Glaucidium radiatum</i>	Barred Jungle Owlet
040	642	<i>Ninox scutulata</i>	Brown Hawk Owl
041	652	<i>Athene brama</i>	Spotted Owlet

12 Family: Caprimulgidae – Nightjars

042	671	<i>Caprimulgus indicus</i>	Indian Jungle Nightjar
043	675	<i>Caprimulgus macrurus</i>	Longtailed Nightjar
044	680	<i>Caprimulgus asiaticus</i>	Common Indian Nightjar

13 Family: Apodidae - Swifts

045	693	<i>Tachymarptis melba</i>	Alpine Swift
046	703	<i>Apus affinis</i>	House Swift
047	709	<i>Hemiprocne coronata</i>	Crested Treeswift *

14 Family: Alcedinidae

048	722	<i>Alcedo atthis</i>	Smallblue Kingfisher
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049 735 *Halcyon smyrnensis* White-breasted Kingfisher

15 Family: Meropidae - Bee eaters

050 744 *Merops leschenaulti* Chestnut-headed Bee-eater *

051 750 *Merops orientalis* Small Green Bee-eater

052 753 *Nyctornis athertoni* Bluebearded Bee-eater *

16 Family: Coraciidae

053 755 *Coracias benghalensis* Indian Roller

17 Family: Upupidae

054 763 *Upupa epops* Hoopoe

18 Family: Megalaimidae

055 785 *Megalaima viridis* Small Green Barbet

056 792 *Megalaima haemacephala* Crimsonbreasted Barbet

19 Family: Picidae - Woodpeckers

057 819 *Dinopium benghalense* Lesser Goldenbacked Woodpecker

058 847 *Dendrocopos mahrattensis* Yellowfronted Pied Woodpecker

059 858 *Chrysocolaptes festivus* Blackbacked Woodpecker

20 Family: Pittidae - Pittas

060 867 *Pitta brachyura* Indian Pitta

21 Family: Alaudidae

061 882 *Ammomanes phoenicurus* Rufous-tailed finch Lark

22 Family: Hirundinidae - Swallows, Martins

062	914	Hirundo concolor	Dusky Crag-Martin
063	916	Hirundo rustica	Common Swallow
064	923	Hirundo daurica	Redrumped Swallow

23 Family: Laniidae - Shrikes

065	940	Lanius vittatus	Bay-backed Shrike
066	946	Lanius schach	Rufous-backed Shrike
067	949	Lanius cristatus	Brown Shrike

24 Family: Oriolidae- Orioles

068	952	Oriolus oriolus	Golden-Oriole
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25 Family : Dicruridae- Drongos

069	965	Dicrurus leucophaeus	Grey Drongo
070	967	Dicrurus caeruleus	White-bellied Drongo
071	973	Dicrurus hottentottus	Hair-crested Drongo

26 Family: Sturnidae - Starlings, Mynas

072	987	Sturnus malabaricus	Grey headed Myna *
073	994	Sturnus pagodarum	Blackheaded Myna
074	1006	Acridotheres tristis	Indian Myna
075	1009	Acridotheres fuscus	Jungle Myna
076	1015	Gracula religiosa	Hill Myna *

27 Family: Corvidae

077	1032	Dendrocitta vagabunda	Indian Treepie
078	1049	Corvus splendens	House Crow
079	1054	Corvus macrorhynchos	Jungle Crow

28 Family: Campephagidae: Cuckoo-Shrikes and Minivets

080	1070	<i>Tephrodornis pondicerianus</i>	Common Woodshrike
081	1072	<i>Coracina novaehollandiae</i>	Large Cuckoo-shrike
082	1078	<i>Coracina melanoptera</i>	Black-headed Cuckoo-shrike
083	1093	<i>Pericrocotus cinnamomeus</i>	Small Minivet

29 Family: Irenidae - Bluebirds, Leafbirds

084	1098	<i>Aegithina tiphia</i>	Common Iora
085	1108	<i>Chloropsis cochinchinensis</i>	Jerdon's Chloropsis

30 Family: Pycnonotidae - Bulbuls

086	1120	<i>Pycnonotus jocosus</i>	Red-whiskered Bulbul
087	1128	<i>Pycnonotus cafer</i>	Red-vented Bulbul
088	1135	<i>Pycnonotus xantholaemus</i>	Yellow-throated Bulbul
089	1138	<i>Pycnonotus luteolus</i>	White-browed Bulbul

31 Family: Muscicapidae

090	1154	<i>Pellorneum ruficeps</i>	Spotted Babbler
091	1173	<i>Pomatorhinus horsfieldii</i>	Slatyheaded Scimitar-Babbler
092	1222	<i>Dumetia hypertyra</i>	Whitethroated Babbler
093	1231	<i>Chrysomma sinense</i>	Yellow-eyed Babbler
094	1265	<i>Turdoides striatus</i>	Jungle Babbler
095	1267	<i>Turdoides affinis</i>	Whiteheaded Babbler
096	1407	<i>Muscicapa latirostris</i>	Brown Flycatcher (M)
097	1411	<i>Muscicapa parva</i>	Red-breasted Flycatcher (M)
098	1421	<i>Muscicapa superciliaris</i>	Whitebrowed blue flycatcher *
099	1442	<i>Muscicapa tickelliae</i>	Tickell's Blue-Flycatcher
100	1445	<i>Muscicapa thalassina</i>	Verditer Flycatcher
101	1451	<i>Rhipidura aureola</i>	White-browed Fantail flycatcher
102	1455	<i>Rhipidura albicollis</i>	White-spotted Fantail flycatcher

103	1461	<i>Terpsiphone paradisi</i>	Paradise-Flycatcher
104	1465	<i>Hypothymis azurea</i>	Blacknaped Blue flycatcher *
105	1503	<i>Prinia hodgsonii</i>	Franklin's Wren Warbler
106	1511	<i>Prinia subflava</i>	Indian Wren Warbler
107	1517	<i>Prinia socialis</i>	Ashy Wren Warbler
108	1538	<i>Orthotomus sutorius</i>	Tailor Bird
109	1549	<i>Acrocephalus aedon</i>	Thickbilled Warbler *
110	1550	<i>Acrocephalus stentoreus</i>	Great Reed Warbler (M)
111	1556	<i>Acrocephalus dumetorum</i>	Blyth's Reed-Warbler (M)
112	1579	<i>Phylloscopus affinis</i>	Tickell's Leaf-Warbler (M)
113	1605	<i>Phylloscopus trochiloides</i>	Greenish Leaf Warbler (M)
114	1661	<i>Copsychus saularis</i>	Magpie-Robin
115	1665	<i>Copsychus malabaricus</i>	Shama #
116	1700	<i>Saxicola caprata</i>	Pied Bushchat
117	1720	<i>Saxicoloides fulicata</i>	Indian Robin
118	1723	<i>Monticola cinclorhynchus</i>	Blue-headed Rock-Thrush (M)
119	1726	<i>Monticola solitarius</i>	Blue Rock-Thrush (M)
120	1751-1757	<i>Turdus merula</i>	Blackcapped Blackbird (M)

32 Family: Paridae - Tits

121	1794	<i>Parus major</i>	Grey Tit
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33 Family: Motacillidae- Pipits, Wagtails

122	1852	<i>Anthus sp</i>	Tree Pipit (sp?) (M)
123	1884	<i>Motacilla cinerea</i>	Grey Wagtail (M)
124	1891	<i>Motacilla madaraspatensis</i>	Large Pied Wagtail

34 Family: Dicaeidae- Flower peckers

125	1899	<i>Dicaeum erythrorhynchus</i>	Tickell's Flowerpecker
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35 Family: Nectariniidae - Sunbirds

126	1908	<i>Nectarinia zeylonica</i>	Purple-rumped Sunbird
127	1917	<i>Nectarinia asiatica</i>	Purple Sunbird

36 Family: Zosteropidae - White eyes

128	1933	<i>Zosterops palpebrosus</i>	White-eye
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37 Family: Ploceidae - Sparrows, Wagtails, Pipits, Accentors, Weavers

129	1938	<i>Passer domesticus</i>	House Sparrow
130	1949	<i>Petronia xanthocollis</i>	Yellow throated Sparrow *
131	1974	<i>Lonchura punctulata</i>	Spotted Munia

38 Family: Fringillidae - Finches

132	2013	<i>Carpodacus erythrinus</i>	Common Rosefinch * (M)
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Appendix IV: Checklist of Reptiles

Class : Reptilia
Order : Chelonia
Family : Emydidae

01. Melanochelys trijuga Pond Terrapin

Order : Sauria

Family : Gekkonidae

02. Hemidactylus Triedrus Termite Hill Gecko

03. Hemidactylus maculatus Rock Gecko

04. Hemidactylus frenatus Southern House Gecko

Family : Agamidae

05. Calotes versicolor Common Garden Lizard

06. Psammophilus dorsalis Peninsular Rock Agama

Family : Chamaeleonidae

07. Chamaeleon zeylanicus Indian Chamaeleon

Family : Scincidae

08. Mabuya carinata Common Skink

09. Riopa punctata Snake Skink

Family : Varanidae

10. Varanus bengalensis Monitor Lizard

Order : Squamata

Family : Typhlopidae

11. Typhlina sp. Blind or Worm snake

Family : Boidae

12. Python molurus Rock Python

Family : Dipsadidae

13. Lycodon aulicus Common Wolf snake

Family : Natricidae

14. Xenochrophis piscator Checkered Keelback

Family : Columbridae

15. Ptyas mucosus Rat snake

16. Ahaetulla nasutus Green Whip snake

Family : Elapidae

17. Naja naja Spectacled Cobra

Family : Viperidae

18. Vipera Russeli Russels's Viper

Appendix V : Checklist of Amphibians

Class : Amphibia

Order : Anura

Family : Bufonidae

01. Bufo melanostictus Common Indian Toad

02. Bufo microtympanum Southern Hill Toad

Family : Microhylidae

03. Kaloula pulchra Painted Frog

04. Uperodon systoma Marbled Baloon Frog

05. Microhyla rubra Red Microhylid

06. Microphyla ornata Ornate Microhylid

Appendix VI : Checklist of Butterflies

Family : Papilionidae

01. *Troides minos* Common Birdwing

02. *Pachliopta hector* Crimson Rose

03. *Pachliopta aristolochiae* Common Rose

04. *Papilio polytes* Common Mormon

05. *Papilio polymnestor* Blue Mormon

06. *Papilio demoleus* Common Lime

07. *Graphium sarpedon* Common Bluebottle

Family : Pieridae

08. *Delias eucharis* Common Jezebel

09. *Itepsia nina* The Pyche

10. *Ixias marianne* White Orangetip

11. *Ixias pyrene* Yellow Orangetip

12. *Hebomoia Glaucippe*
13. *Parenonia valeria*
14. *Catopsilia crocale*
15. *Anaphaeis aurota*
16. *Eurema hecabe*
17. *Eurema brigitta*
18. *Cepora nerissa*

- Great Orangetip
Common Wanderer
Common Emigrant
The Pioneer
Common Grassyellow
Small Grassyellow
Common Gull

Family : *Lycaenidae*

19. *Castalius rosimon*
20. *Talicauda nyseus*
21. *Lycaenopsis puspa*
22. *Zizeeria maha*
23. *Zizina otis*
24. *Freyeria trochylus*
25. *Jamides celeno*
26. *Curetis thetis*
27. *Lampides boeticus*
28. *Euchrysops onejus*

- Common pierrot
Red pierrot
Common Hedge Blue
Pale Grass Blue
Lesser Grass Blue
Southern Grass Jewel
Common Cerulean
Indian Sunbeam
Pea blue
Gram Blue

Family : *Danaidae*

29. *Danais chrysippus*
30. *Danais genutia*
31. *Parantica aglea*
32. *Tirumala Limniace*
33. *Euploea core*
34. *Euploea coreta*

- Plain Tiger
Striped tiger
Glassy Tiger
Blue Tiger
Common crow
Doublebranded Crow

Family : *Satyridae*

35. *Melanitis leda*

- Common Evening Brown

36. *Mycalesis* sps.

Bushbrown

Family : Nymphalidae

37. *Ariadne merione*

Common Castor

38. *Phalanta phalanta*

Common Leopard

39. *Junonia hierta*

Yellow pansy

40. *Junonia orithya*

Blue pansy

41. *Junonia lemonias*

Lemon pansy

42. *Hypolimnys bolina*

Great Eggfly

43. *Hypolimnys missipus*

Danaid Eggfly

44. *Neptis hylas*

Common Sailor

45. *Polyura athamas*

Common Nawab

46. *Vanessa cardui*

Painted Lady

47. *Euthalia nais*

Baronet

Family : Acraeidae

48. *Acraea terpsicore*

Tawny Coster

Family : Hesperidae

49. *Hasora chromus*

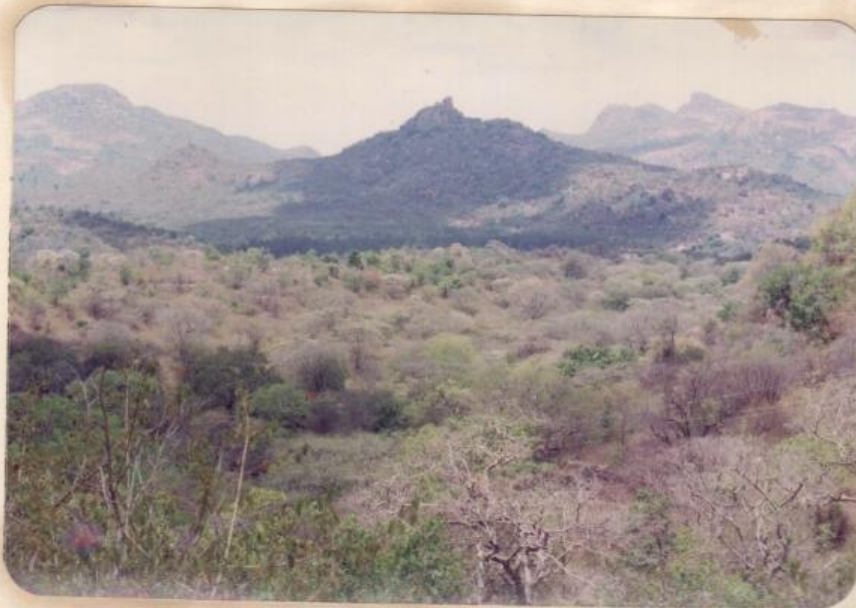
Common Banded Awl

50. *Baoris zelleri*

Rice Swift



1 : A view of Devarayanadurga Hill with scrub forest on the slopes.



2 : Dry deciduous forest patch at lower elevations.



3 : A close-up of 'Namadachilume' spring.



4 : An ideal habitat of the Yellowthroated Bulbul and the Shahin Falcon.



5 : The Rock Agama - one of the common reptiles in the State Forest.



6 : Brown Fish Owl, one of the rarer residents.



7 : Gloriosa superba, a beautiful lily.



8 : Plain Tiger - a common butterfly.



9 & 10 : Cattle grazing and firewood gathering - serious threats.

